AF/DBW
4

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: John D. Hottovy et al.	§	Group Art Unit: 1713
Serial No.: 10/660,990	§	Examiner: Lu, C. Caixia
Filed: September 13, 2003	§	
For: Loop Reactor Apparatus and Polymerization Processes with Multiple Feed Points for Olefins and Catalysts	§	Atty. Docket: 210318US01 CPCM:0023/FLE

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

CERTIFICATE OF MAILING
37 C.F.R. 1.8

I hereby certify that this correspondence is being deposited with the U.S. Postal Service as First Class Mail, with sufficient postage, in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on the date below:

August 28, 2006 — Date
Marcie Alsbury

APPEAL BRIEF PURSUANT TO 37 C.F.R. §§ 41.31 AND 41.37

This Appeal Brief is being filed in furtherance to the Notice of Appeal mailed on May 22, 2006, and received by the Patent Office on May 26, 2006. Further, Appellant hereby requests a one-month extension in the statutory period from July 26, 2006 to August 26, 2005 in accordance with 37 C.F.R. § 1.136. The Commissioner is authorized to charge the requisite fee of $500.00 for this Appeal Brief, the requisite fee of $120.00 for the one-month extension of time, and any additional fees which may be necessary to advance prosecution of the present application, to the credit card listed on the attached PTO-2038. If the PTO-2038 is missing, if the amount listed thereon is insufficient, or if the amount is unable to be charged to the credit card for any other reason, the

09/01/2006 FMETEKI1 00000018 10660990
01 FC:1402 500.00 OP

09/01/2006 FMETEKI1 00000018 10660990
02 FC:1251 120.00 OP

Commissioner is authorized to charge Deposit Account No. 06-1315; Order No. CPCM:0023/FLE (210318US01).

1. REAL PARTY IN INTEREST

The real party in interest is Chevron Phillips Chemical Company, LP, the Assignee of the above-referenced application by virtue of the Assignment to Chevron Phillips Chemical Company, LP, recorded at reel 015102, frame 0289, and dated February 9, 2004. Accordingly, Chevron Phillips Chemical Company, LP will be directly affected by the Board's decision in the pending appeal.

2. RELATED APPEALS AND INTERFERENCES

Appellants are unaware of any other appeals or interferences related to this Appeal. The undersigned is Appellants' legal representative in this Appeal.

3. STATUS OF CLAIMS

Claims 1-15 and 21-27 are currently pending, are currently under final rejection and thus, are the subject of this Appeal.

4. STATUS OF AMENDMENTS

All amendments in relation to the claims of the present patent application have been entered, and no amendments have been submitted or entered subsequent to the Final Office Action mailed on January 19, 2006.

5. SUMMARY OF CLAIMED SUBJECT MATTER

This present invention generally relates to the polymerization of olefin monomers in a liquid medium, particularly in a large loop reactor used for slurry polymerization. Application, ¶ 2. The present application contains two independent claims, namely, claims 1 and 24, both of which have been improperly rejected and, thus, are subject to this Appeal. The subject matter of these two independent claims is summarized below. In addition, Appellants also summarize the subject matter of dependent claims 2, 4-10, 14, and 15.

Claim 1 generally relates to a slurry polymerization process in which solid polyolefin particles (e.g., polyethylene) are formed in a fluid slurry. *See* Application, ¶¶ 3 and 8. An olefin monomer (e.g., ethylene) is introduced to a loop reaction zone (e.g., loop reactor 10) through a plurality of monomer feeds (e.g., monomer sources 26 via conduit 30 and flow control valves 32) wherein the monomer feeds are substantially symmetrically arranged around the loop reaction zone (e.g., placement of conduits 30 at the loop reactor 10). *See* Application, ¶¶ 24, 26, and 29; Fig. 1. Catalyst (e.g., catalyst mud) is introduced (e.g., via catalyst feeds 44) to the loop reaction zone, the catalyst being capable of polymerizing the olefin monomer. *See* ¶¶ 17 and 31; Fig. 1. The olefin monomer is polymerized to form a fluid slurry containing solid polyolefin particles; and a portion of the fluid slurry is withdrawn (e.g., via continuous take-off mechanism 34 and conduit 36) as an intermediate product at a slurry withdrawal location in the loop reaction zone where the intermediate product contains a higher concentration of the solid

polyolefin particles than an average concentration of the solid polyolefin particles the fluid slurry in the loop reaction zone. *See* ¶¶ 33, 33C, and 34; Fig. 1.

Claim 24 generally relates to a slurry polymerization process in which solid polyolefin particles (e.g., polyethylene) are formed in a fluid slurry (e.g., in diluent, etc.), the process comprising: introducing an olefin monomer (e.g., from monomer source 26) to a loop reaction zone (e.g., loop reactor 10) through a plurality of monomer feeds (e.g. via conduit 30 and flow control valves 32); introducing a catalyst (e.g., via catalyst feeds 44) to the loop reaction zone, the catalyst being capable of polymerizing the olefin monomer (e.g., ethylene, comonomer 1-hexene, etc.); polymerizing the olefin monomer to form a fluid slurry containing solid polyolefin particles; and withdrawing a portion of the fluid slurry as an intermediate product through a plurality of product take-offs (e.g., continuous take-off mechanisms 34 and conduits 36), wherein the monomer feeds (e.g., conduit 30) and the product take-offs (e.g., in or adjacent to one of the lower horizontal reactor loop sections 16, and/or adjacent or on a connecting elbow 20) are arranged substantially symmetrically about the loop reactor. *See* Application, ¶¶ 3, 8, 9, 17, 24, 26, 29, 31, 33, 33C, and 34; Fig. 1.

Dependent Claims 2, 4-10, 14, 15

Dependent claims 2, 4-10, 14, and 15 depend from claim 1 and are summarized. Claim 2 states wherein the catalyst is fed to the loop reaction zone (e.g., loop reactor 10) through a plurality of catalyst feeds (e.g., catalyst feeds 44). *See* Application, ¶¶ 9, 17

and 31; Fig. 1. Claim 4 recites wherein the product take-offs (e.g., via continuous take-off mechanism 34) are substantially symmetrically arranged around the loop reaction zone. *See* Application, ¶¶ 9, 29, and 40. Claim 5 states wherein a range of concentration of the olefin monomer (e.g., ethylene) within the loop reaction zone (e.g., loop reactor 10) is 1.05% or smaller. *See* Application, ¶¶ 8, 19, and 20. Claim 6 recites wherein the plurality of monomer feeds (e.g., conduits 30 and flow control valves 32) comprises at least one monomer feed per 800 feet of reactor length. *See* Application, ¶ 8. Claim 7 states wherein the plurality of monomer feeds comprises at least one monomer feed per 18,000 gallons of reactor volume. *See* Application, ¶ 8.

Claim 8 states wherein the fluid slurry has a plurality of monomer concentrations around the loop reaction zone (e.g., loop reactor 10), and the standard deviation of the plurality of monomer concentrations is equal to or less than 0.4%. *See* Application, ¶¶ 8 and 20. Claim 9 states that measuring the concentration of the olefin monomer (e.g., ethylene) in the withdrawn portion (e.g., in conduit 36) of the fluid slurry, and adjusting the introduction of the olefin monomer (e.g., via control valve 32) in response to the measured concentration. *See* Application, ¶¶ 7, 10, and 27-28. Claim 10, which depends from claim 9, further states wherein the introduction of the olefin monomer is adjusted (e.g., via control valve 32) so that a different amount of the olefin monomer is fed at one monomer feed than the amount of the olefin monomer fed at another monomer feed. *See id.* Claim 14 recites wherein each of the monomer feeds (e.g., control valves 32) is separately controlled. *See id.* Claim 15 recites wherein the solid polyolefin particles

(e.g., polyethylene, polypropylene, etc.) have a molecular weight distribution that is unimodal. *See* Application, ¶ 23.

6. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

First Ground of Rejection for Review on Appeal:

Appellants respectfully urge the Board to review and reverse the Examiner's first ground of rejection in which the Examiner rejected claims 1-4, 6, 7, 9-15, and 21-27 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-25 of U.S. Patent No. 6,239,235.

Second Ground of Rejection for Review on Appeal:

Appellants respectfully urge the Board to review and reverse the Examiner's first ground of rejection in which the Examiner rejected claims 1-4, 6, 7, 9-15, and 21-27 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-19 of U.S. Patent No. 6,806,324.

Third Ground of Rejection for Review on Appeal:

Appellants respectfully urge the Board to review and reverse the Examiner's first ground of rejection in which the Examiner rejected claims 1-4, 6, 7, 9-15, and 21-27 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-9 of U.S. Patent No. 6,743,869.

Fourth Ground of Rejection for Review on Appeal:

Appellants respectfully urge the Board to review and reverse the Examiner's first ground of rejection in which the Examiner rejected claims 1-4, 6, 7, 9-15, and 21-27 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-13 of U.S. Patent No. 6,815,511.

Fifth Ground of Rejection for Review on Appeal:

Appellants respectfully urge the Board to review and reverse the Examiner's first ground of rejection in which the Examiner rejected claims 5 and 8 under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement.

Sixth Ground of Rejection for Review on Appeal:

Appellants respectfully urge the Board to review and reverse the Examiner's first ground of rejection in which the Examiner rejected claims 1-4, 6, 7, 9-15, and 21-27 under 35 U.S.C. § 102(b) as being anticipated by Hottovy et al. (U.S. Patent No. 6,239,235).

Seventh Ground of Rejection for Review on Appeal:

Appellants respectfully urge the Board to review and reverse the Examiner's first ground of rejection in which the Examiner rejected claims 1-4, 6, 7, 9-15, and 21-27 under 35 U.S.C. § 102(b) as being anticipated by Kendrick et al. (US 2002/0173598 A1, now US Patent No. 6,833,415).

7. **ARGUMENT**

As discussed in detail below, the Examiner has improperly rejected the pending claims. Further, the Examiner has misapplied long-standing and binding legal precedents and principles in rejecting the claims. Accordingly, Appellants respectfully request full and favorable consideration by the Board, as Appellants strongly believe that claims 1-4, 6, 7, 9-15, and 21-27 are currently in condition for allowance.

First Ground of Rejection – Obviousness-Type Double Patenting

In the Final Office Action, the Examiner rejected claims 1-4, 6, 7, 9-15, and 21-27 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-25 of U.S. Patent No. 6,239,235 (hereinafter Hottovy '235). However, the Examiner did not satisfy her burden of showing a correspondence between the present claims 1-4, 6, 7, 9-15, and 21-27 and the Hottovy '235 claims. The Examiner *must* identify the differences between the inventions defined by the conflicting claims and *the reasons why* a person of ordinary skill in the art would conclude that the invention defined in the present claims are *obvious variations* of the invention defined in the claims in the patents. *See* M.P.E.P § 804. Here, the Examiner only stated in an absolutely conclusory fashion that elements of the present claims were minor details and therefore obvious. Appellants respectfully, yet strongly, traverse this contention. Further, Appellants respectfully remind the Board that the Examiner may not rely on the specification of the patent underlying the double patenting rejection as prior art in the obviousness determination.

Appellants emphasize that features of the present claims are not obvious variants of the claims in the Hottovy '235 patent. For example, the present claims 1 and 24 generally recite that a plurality of monomer feeds are arranged substantially symmetrically around a loop reaction zone. In contrast, the Hottovy '235 claims merely recite polymerizing at least one monomer in a loop reaction zone and are *not* directed to how the monomer is fed to the loop reaction zone. The Hottovy '235 claims make no reference to the number of monomer feeds or to an arrangement of monomer feeds. It is *not* obvious that the Hottovy '235 claims would incorporate more than one monomer feed or a symmetrical arrangement, as presently claimed. *See* M.P.E.P § 804. One of ordinary skill in the art would *not* view the Hottovy '235 claims as obvious variants of the present independent claims 1 and 24. *See id.* Accordingly, Appellants respectfully request that the Board direct the Examiner to withdraw the double patenting rejection and allow the claims.

Second Ground of Rejection – Obviousness-Type Double Patenting

In the Final Office Action, the Examiner rejected claims 1-4, 6, 7, 9-15, and 21-27 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-19 of U.S. Patent No. 6,806,324 (hereinafter Hottovy '324). However, the Examiner did not satisfy her burden of showing a correspondence between the present claims 1-4, 6, 7, 9-15, and 21-27 and the Hottovy '324 claims. Again, the Examiner *must* identify the differences between the inventions defined by the conflicting claims and *the reasons why* a person of ordinary skill in the art would conclude that the

invention defined in the present claims are *obvious variations* of the invention defined in the claims in the patents. *See* M.P.E.P § 804. Here, as stated, the Examiner only contended in an absolutely conclusory fashion that elements of the present claims were minor details and therefore obvious.

To the contrary, the present claims are *not* obvious variants of the claims in the Hottovy '324 patent. For example, the present claims 1 and 24 generally recite that a plurality of monomer feeds are arranged substantially symmetrically around a loop reaction zone. In contrast, the Hottovy '324 claims merely recite polymerizing at least one monomer in a loop reaction zone and are *not* directed to how the monomer is fed to the loop reaction zone. The Hottovy '324 claims make no reference to the number of monomer feeds or to an arrangement of monomer feeds. It is *not* obvious that the Hottovy '324 claims would incorporate more than one monomer feed or a symmetrical arrangement, as presently claimed. *See* M.P.E.P § 804. One of ordinary skill in the art would *not* view the Hottovy '324 claims as obvious variants of the present independent claims 1 and 24. *See id.* Accordingly, Appellants respectfully request that the Board direct the Examiner to withdraw the double patenting rejection and allow the claims.

Third Ground of Rejection – Obviousness-Type Double Patenting

In the Final Office Action, the Examiner rejected claims 1-4, 6, 7, 9-15, and 21-27 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-9 of U.S. Patent No. 6,743,869 (hereinafter Franklin). Yet,

the Examiner did not satisfy her burden of showing a correspondence between the present claims 1-4, 6, 7, 9-15, and 21-27 and the Franklin claims. The Examiner did *not* identify the differences between the inventions defined by the conflicting claims and did not provide *the reasons why* a person of ordinary skill in the art would conclude that the invention defined in the present claims are *obvious variations* of the invention defined in the claims in the patents. *See* M.P.E.P § 804. The Examiner only stated in an absolutely conclusory fashion that elements of the present claims were minor details and therefore obvious.

However, the present claims are *not* obvious variants of the claims in the Franklin patent. For example, the present claims 1 and 24 generally recite that a plurality of monomer feeds are arranged substantially symmetrically around a loop reaction zone. In contrast, the Franklin claims merely recite polymerizing at least one monomer in a loop reaction zone and are *not* directed to how the monomer is fed to the loop reaction zone. The Franklin claims make no reference to the number of monomer feeds or to an arrangement of monomer feeds. It is *not* obvious that the Franklin claims would incorporate more than one monomer feed or a symmetrical arrangement, as presently claimed. *See* M.P.E.P § 804. One of ordinary skill in the art would *not* view the Franklin claims as obvious variants of the present independent claims 1 and 24. *See id.* Accordingly, Appellants respectfully request that the Board direct the Examiner to withdraw the double patenting rejection and allow the claims.

Fourth Ground of Rejection – Obviousness-Type Double Patenting

In the Final Office Action, the Examiner rejected claims 1-4, 6, 7, 9-15, and 21-27 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-13 of U.S. Patent No. 6,815,511 (hereinafter Verser) However, the Examiner did not show a correspondence between the present claims 1-4, 6, 7, 9-15, and 21-27 and the Franklin claims, as required. *See* M.P.E.P § 804. The Examiner did *not* identify the differences between the inventions defined by the conflicting claims and did not provide *the reasons why* a person of ordinary skill in the art would conclude that the invention defined in the present claims are *obvious variations* of the invention defined in the claims in the patents. *See id.* Instead, the Examiner only stated in an absolutely conclusory fashion that elements of the present claims were minor details and therefore obvious.

Appellants stress that the present claims are *not* obvious variants of the claims in the Verser patent. For example, the present claims 1 and 24 generally recite that a plurality of monomer feeds are arranged substantially symmetrically around a loop reaction zone. In contrast, the Verser claims merely recite feeding a feed material comprising at least one monomer to a loop reaction zone and are *not* directed to how the monomer is fed to the loop reaction zone. Instead, the Verser claims are directed to monitoring pressure in the withdrawal line of the loop reaction zone, and to opening an inactive slurry withdrawal line in response to the monitored pressure.

The Verser claims make no reference to the number of monomer feeds or to an arrangement of monomer feeds. It is *not* obvious that the Verser claims would incorporate more than one monomer feed or a symmetrical arrangement, as presently claimed. *See* M.P.E.P § 804. One of ordinary skill in the art would *not* view the Verser claims as obvious variants of the present independent claims 1 and 24. *See id.* Accordingly, Appellants respectfully request that the Board direct the Examiner to withdraw the double patenting rejection and allow the claims.

Fifth Ground of Rejection – 35 U.S.C. § 112, First Paragraph

The Examiner rejected claims 5 and 8 under 35 U.S.C. § 112, First Paragraph, for failing to comply with the enablement requirement. The Examiner asserted that the "claims contain subject matter which was not described in the specification in such a way as to enable one skilled in the art . . . to make and/or use the invention." *See* Final Office Action, page 2. In particular, with regard to both claims 5 and 8, the Examiner stated that "[t]he base of the percentage of monomer is not defined." *See id.* Further, the Examiner contended that the phrase "a range of concentration" recited in claim 5 should be corrected to more clearly indicate this phrase refers to the "variation" of monomer concentration. Appellants respectfully traverse these rejections.

Legal Precedent

Regarding the enablement requirement, the Examiner has the initial burden to establish a *reasonable basis* to question the enablement provided for the claimed

invention. *In re Wright*, 999 F.2d 1557, 1562, 27 U.S.P.Q.2d 1510, 1513 (Fed. Cir. 1993). The test for enablement, as set forth by the Supreme Court, is whether the experimentation needed to practice the invention is undue or unreasonable? *Mineral Separation v. Hyde*, 242 U.S. 261, 270 (1916). The *undue experimentation* test essentially evaluates whether one of reasonable skill in the art can make or use the invention from the disclosures in the patent coupled with information known in the art without undue experimentation. *U.S. v. Telectronics, Inc.*, 857 F.2d 778, 785, 8 U.S.P.Q.2d 1217, 1223 (Fed. Cir. 1988). A patent need not teach, and preferably omits, what is well known in the art. *In re Buchner*, 929 F.2d 660, 661, 18 U.S.P.Q.2d 1331, 1332 (Fed. Cir. 1991).

Claims 5 and 8

As mentioned, the Examiner contended that claims 5 and 8 are not enabled because "the base of the percentage of the monomer is not defined." *See* Final Office Action, page 2. Appellants respectfully traverse this contention. The base of the percentage of monomer (e.g., ethylene) is defined. *See, e.g.*, Application, Examples I and II, pages 11 and 12, ¶¶ 36 and 27 (explaining that to calculate the percent ethylene, the "pounds of ethylene" in the reactor are divided by the "pounds of the liquid contents in the reactor"). Indeed, the monomer concentration is expressed as a weight percent of the liquid contents in the reactor. *See id.* Undue experimentation is not required to required by one of ordinary skill in the art to make and use the presently-claimed invention.

The Examiner acknowledged this definition but contended that "such [a] limitation must be inserted into the claims in order to overcome the rejection." Appellants respectfully traverse this contention. The calculation basis of the monomer (e.g., ethylene) concentrations in percent is clearly described in the specification and need not be expressly stated in the claims. *See, e.g.*, Application, Examples I and II, pages 11 and 12, ¶¶ 36 and 27; *see also, e.g.*, Indeed, s*ee Phillips v. AWH Corp.*, No. 03-1269, -1286, at 13-16 (Fed. Cir. July 12, 2005) (explaining that the is the primary basis for construing the claims.)

Claim 5

Claim 5 expresses the swing in monomer concentration as an absolute difference in percentage (e.g., 1.05%), in which Appellants believe to be a well-known methodology in the art. *See, e.g.*, Application, page 2, ¶ 8; page 6 ¶¶ 19 and 29; pages 11 and 12, ¶¶ 36 and 27; *see also, e.g.*, *Collegenet, Inc. v. ApplyYourself, Inc.*, No. 04-1202, -1222, 1251, at 8-9 (Fed. Cir. August 2, 2005) (holding that derivation of a claim term is based on usage in the ordinary and accustomed meaning of the words amongst artisans of ordinary skill in the relevant art). Again, a patent need not teach, and preferably omits, what is well known in the art. *In re Buchner*, 18 U.S.P.Q.2d at 1332.

The Examiner asserted that claim 5 must be amended to make more clear that the swing percentage presented in claim 5 refers to the difference in concentration through the loop reactor (and not directly to the actual concentration). However, in view of the

specification, Appellants respectfully assert that the claim 5 is clear to one of ordinary skill in the art, and is enabled. *See, e.g.*, Application, page 2, ¶ 8; page 6 ¶¶ 19 and 29; pages 11 and 12, ¶¶ 36 and 27; *see also, e.g.*, *see also Phillips*, at 16. (explaining that one should rely heavily on the written description for guidance as to the meaning of the claims). For these reasons, Appellants respectfully request that the Examiner withdraw the rejection of claim 5 under 35 U.S.C. § 112.

Request Withdrawal of Rejections

In view of the foregoing, undue experimentation is *not* required by one of ordinary skill in the art to make and use the presently-claimed invention. *See, e.g.*, *U.S. v. Telectronics, Inc.*, 857 F.2d at 778. Claims 5 and 8 are enabled. Accordingly, Appellants respectfully request that Board direct the Examiner to withdraw the rejections of claims 5 and 8 under 35 U.S.C. § 112, and allow the claims.

Six Ground of Rejection – 35 U.S.C. § 102(b)

In the Office Action, the Examiner rejected claims 1-4, 6, 7, 9-15, and 21-27 under U.S.C. § 102(b) as anticipated by Hottovy et al. (U.S. Patent No. 6,239,235). Claims 1 and 24 are independent. Applicant respectfully traverses these rejections.

Legal Precedent

Anticipation under section 102 can be found only if a single reference shows exactly what is claimed. *Titanium Metals Corp. v. Banner*, 778 F.2d 775, 227 U.S.P.Q.

773 (Fed. Cir. 1985). For a prior art reference to anticipate under section 102, every element of the claimed invention must be identically shown in a single reference. *In re Bond*, 910 F.2d 831, 15 U.S.P.Q.2d 1566 (Fed. Cir. 1990). The prior art reference must show the *identical* invention "*in as complete detail as contained in the ... claim*" to support a case of anticipation. *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 U.S.P.Q. 2d 1913, 1920 (Fed. Cir. 1989) (emphasis added).

Deficiencies of the Rejection based on Hottovy

Independent claim 1, as amended, recites "introducing an olefin monomer to a loop reaction zone through a plurality of monomer feeds, *wherein the monomer feeds are substantially symmetrically arranged around the loop reaction zone*." (Emphasis added). Independent claim 24 recites "wherein the monomer feeds and the product take-offs are arranged *substantially symmetrically* about the loop reactor." (Emphasis added). In contrast, Hottovy '235 is absolutely devoid of arranging monomer feeds and/or product take-offs substantially symmetrically around the loop reactor. Therefore, Hottovy '235 cannot anticipate claims 1 and 24, or their dependent claims.

In the Final Office Action, the Examiner asserted incorrectly that two feeds would *always* be symmetrical about the loop reactor. The Examiner contended that two feeds would at least have "C_2 symmetry" (i.e., mirror plane symmetry). However, contrary to the Examiner's assertion, two feeds (or more) will *not* always be symmetrical. This is so when even considering the concept of the C_2 symmetry. After all, a loop reaction zone is

typically not a simple loop. *See, e.g.*, Application, Figure 1. Instead, loop reaction zones typically have multiple vertical and horizontal legs or segments. *See, e.g.*, Application, ¶¶ 24 and 25; Figure 1. To be sure, the multiple dissimilar segments of the loop reactor make clear that two feeds will *not* always be *symmetrical around* a given loop reaction zone, as incorrectly asserted by the Examiner. In view of these reasons, Appellants respectfully request that the Board direct the Examiner to withdraw the rejection under 35 U.S.C. § 102 and allow the claims.

Dependent Claims 2, 4, 6, 7, 9, 10, 14, 15

While the dependent claims are patentable because their dependency on an allowable base claims, the dependent claims are also patentable by virtue of the subject matter they separately recited. For example claim 2 recites wherein the catalyst is fed to the loop reaction zone through a plurality of catalyst feeds. In contrast Hottovy '235 discloses only a single catalyst feed (positioned upstream of the impeller 22). *See* Hottovy, col. 4, lines 6-15. In addition, claim 4 recites wherein the product take-offs (e.g., via continuous take-off mechanism 34) are substantially symmetrically arranged around the loop reaction zone. Hottovy '235 fails to disclose a symmetrical arrangement of product take-offs.

Claim 6 recites wherein the plurality of monomer feeds comprises at least one monomer feed per 800 feet of reactor length. Claim 7 recites wherein the plurality of

monomer feeds comprises at least one monomer feed per 18,000 gallons of reactor volume. Hottovy '235 is absolutely devoid of these features.

Claim 9 states that measuring the concentration of the olefin monomer in the withdrawn portion (e.g., in conduit 36) of the fluid slurry, and adjusting the introduction of the olefin monomer (e.g., via control valve 32) in response to the measured concentration. Claim 10, which depends from claim 9, further states wherein the introduction of the olefin monomer is adjusted (e.g., via control valve 32) so that a different amount of the olefin monomer is fed at one monomer feed than the amount of the olefin monomer fed at another monomer feed. *See id.* Claim 14 recites wherein each of the monomer feeds (e.g., control valves 32) is separately controlled. *See id.* In contrast, Hottovy '235 merely mentions that the monomer is introduced to the reactor. Hottovy '235 plainly does *not* address the control scheme of the monomer feed, in general, much less the specific features recites in claims 9, 10, and 14.

Lastly, claim 15 recites wherein the solid polyolefin particles (e.g., polyethylene, polypropylene, etc.) have a molecular weight distribution that is unimodal. *See* Application, ¶ 23. Hottovy '235 is absolutely devoid of such a feature. In view of the foregoing, Appellants respectfully emphasize that dependent claims 2, 4, 6, 7, 9, 10, 14, 15 are patentable over Hottovy '235 by virtue of the subject matter they separately recite. Accordingly, for the additional reason, Appellants respectfully request that the Board

direct the Examiner to withdraw the rejection of dependent claims 2, 4, 6, 7, 9, 10, 14, 15, and allow the claims.

Request Evidence to Support Official Notice

Further, dependent claim features (e.g., with regard to the separate control of monomer feeds, the unimodal production, etc.) are *not* within the generic disclosure of the prior art, as incorrectly asserted by the Examiner. *See* Final Office Action, page 3. Indeed, the present claims recite unique features not found in the prior art at least with regard to such subject matter. The Examiner asserted that these features are known and understood in the art. *See* Final Office Action, pages 3-4. Thus, the Examiner has essentially taken Official Notice of facts outside of the record that the Examiner apparently believes are capable of demonstration as being "well-known" in the art. *See id.* Moreover, Appellants emphasize that the subjected matter of the present claims is not of a "notorious character" and are clearly not "capable of such instant and unquestionable demonstration as to defy dispute." *See* M.P.E.P. § 2144.03.

Therefore, in accordance with M.P.E.P. § 2144.03, Appellants have seasonably traversed and challenged the Examiner's use of Official Notice. Specifically, Appellants respectfully requested that the Examiner produce evidence in support of the Examiner's position (i.e., that discloses the allegedly "well known" elements of the instant claims). Appellants respectfully request that the Board direct the Examiner to respond to Appellants' requests regarding the Examiner's apparent use of Official Notice.

Seventh Ground of Rejection – 35 U.S.C. § 102(e)

In the Final Office Action, the Examiner rejected claims 1-4, 6, 7, 9-15, and 21-27 under 35 U.S.C. § 102(b) as being anticipated by Kendrick et al. (US 2002/0173598 A1, now US Patent No. 6,833,415). However, this rejection is moot because Appellants have elected to remove Kendrick et al. (US 2002/0173598 A1, now US Patent No. 6,833,415).

Request Removal of Kendrick

Kendrick is not valid prior art because Appellants, in a previous Response (which is herein incorporated by reference), elected to remove Kendrick et al. (US 2002/0173598 A1, now issued as US 6,833,415) under 37 C.F.R. § 1.131. *See* Response to Final Office Action Mailed February 24, 2005, pages 10-17. Appellants respectfully assert that the previously-submitted Rule 131 Declaration and the accompanying exhibits sufficiently establish an earlier date of the invention of the subject matter disclosed and claimed in the present application. *See* Rule 131 Declaration of Donald W. Verser; Exhibits C, D, and E. These documents establish conception prior to the effective dates of the cited reference and, furthermore, establish diligence during the critical period from just prior to the effective date of the cited reference until constructive reduction to practice of the present application. *See* 37 C.F.R. § 1.131(b); M.P.E.P. §715.07(III). Therefore, Appellants believe that the cited reference should be removed pursuant to 37 C.F.R. § 1.131, the corresponding rejection withdrawn, and the claims allowed.

Appellants Decline to Provoke an Interference with Kendrick et al. (US 6,833,415)

With regard to Kendrick et al. (US 6,833,415), Appellants believe the appropriate path is to removed the Kendrick et al. (US 6,833,415) via the previously-submitted Rule 131 Declaration, as discussed above. If the Examiner disagrees with Appellants and believes that "the reference is claiming the same patentable invention," and therefore, the previously-submitted "declaration of June 27, 2005 is inappropriate under 37 CFR 1.131(a)," it is the Examiner's responsibility to initiate the interference, not Appellants. *See* M.P.E.P. Chapters 800 and 2300. The Examiner must either remove the reference under 37 C.F.R. § 1.131 or provoke an interference. *See* M.P.E.P § 2306. Appellants note that if the Examiner provokes an interference, the Examiner is required to suggest claims for the interference. *See* M.P.E.P. Chapter 2300.

Conclusion

Appellants respectfully submit that all pending claims are in condition for allowance. However, if the Examiner or Board wishes to resolve any other issues by way of a telephone conference, the Examiner or Board is kindly invited to contact the undersigned attorney at the telephone number indicated below.

Respectfully submitted,

Date: August 28, 2006

Michael G. Fletcher
Reg. No. 32,777
FLETCHER YODER
P.O. Box 692289
Houston, TX 77269-2289
(281) 970-4545

8. APPENDIX OF CLAIMS ON APPEAL

A listing of all claims and their current status in accordance with 37 C.F.R. § 1.121(c) is provided below.

1. (previously presented) A slurry polymerization process in which solid polyolefin particles are formed in a fluid slurry, the process comprising:

introducing an olefin monomer to a loop reaction zone through a plurality of monomer feeds, wherein the monomer feeds are substantially symmetrically arranged around the loop reaction zone;

introducing a catalyst to the loop reaction zone, the catalyst being capable of polymerizing the olefin monomer;

polymerizing the olefin monomer to form a fluid slurry containing solid polyolefin particles; and

withdrawing a portion of the fluid slurry as an intermediate product at a slurry withdrawal location in the loop reaction zone where the intermediate product contains a higher concentration of the solid polyolefin particles than an average concentration of the solid polyolefin particles the fluid slurry in the loop reaction zone.

2. (previously presented) A process according to claim 1 wherein the catalyst is fed to the loop reaction zone through a plurality of catalyst feeds.

3. (previously presented) A process according to claim 1 wherein the portion of the fluid slurry is withdrawn through a plurality of product take-offs.

4. (previously presented) A process according to claim 3, wherein the product take-offs are substantially symmetrically arranged around the loop reaction zone.

5. (previously presented) A process according to claim 1 wherein a range of concentration of the olefin monomer within the loop reaction zone is 1.05% or smaller.

6. (previously presented) A process according to claim 1 wherein the plurality of monomer feeds comprises at least one monomer feed per 800 feet of reactor length.

7. (previously presented) A process according to claim 1 wherein the plurality of monomer feeds comprises at least one monomer feed per 18,000 gallons of reactor volume.

8. (previously presented) A process according to claim 1 wherein the fluid slurry has a plurality of monomer concentrations around the loop reaction zone, and the standard deviation of the plurality of monomer concentrations is equal to or less than 0.4%.

9. (previously presented) A process according to claim 1, comprising measuring the concentration of the olefin monomer in the withdrawn portion of the fluid slurry, and adjusting the introduction of the olefin monomer in response to the measured concentration.

10. (original) A process according to claim 9 wherein the introduction of the olefin monomer is adjusted so that a different amount of the olefin monomer is fed at one monomer feed than the amount of the olefin monomer fed at another monomer feed.

11. (previously presented) A process according to claim 1 wherein the loop reaction zone has a volume of more than 20,000 gallons.

12. (previously presented) A process according to claim 1 wherein the loop reaction zone has a volume of more than 30,000 gallons.

13. (previously presented) A process according to claim 1 wherein the loop reaction zone has a volume of 35,000 gallons or more.

14. (previously presented) A process according to claim 1 wherein each of the monomer feeds is separately controlled.

15. (previously presented) A process according to claim 1 wherein the solid polyolefin particles have a molecular weight distribution that is unimodal.

16-20. (cancelled)

21. (previously presented) A process according to claim 1, comprising introducing a liquid diluent to the loop reaction zone.

22. (previously presented) A process according to claim 21, wherein the polyolefin particles comprise polyethylene.

23. (previously presented) A process according to claim 1, wherein the polyolefin particles comprise polypropylene.

24. (previously presented) A slurry polymerization process in which solid polyolefin particles are formed in a fluid slurry, the process comprising:

introducing an olefin monomer to a loop reaction zone through a plurality of monomer feeds;

introducing a catalyst to the loop reaction zone, the catalyst being capable of polymerizing the olefin monomer;

polymerizing the olefin monomer to form a fluid slurry containing solid polyolefin particles; and

withdrawing a portion of the fluid slurry as an intermediate product through a plurality of product take-offs, wherein the monomer feeds and the product take-offs are arranged substantially symmetrically about the loop reactor.

25 (previously presented) A process according to claim 24, comprising introducing a liquid diluent to the loop reaction zone.

26. (previously presented) A process according to claim 25, wherein the polyolefin particles comprise polyethylene.

27. (previously presented) A process according to claim 24, wherein the polyolefin particles comprise polypropylene.

9. APPENDIX OF EVIDENCE

None.

10. APPENDIX OF RELATED PROCEEDINGS

None.